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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/311,070	05/13/1999	YOSHIHARU HIRAKATA	0756-1971	9732

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EXAMINER

NGUYEN, DUNG T

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 06/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/311,070

Applicant(s)

Hirakata et al.

Examiner

Dung Nguyen

Art Unit

2871



— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Mar 14, 2002
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 14-24 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 14-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 2871

Response to Amendment

Applicant's amendment dated 03/14/2002 has been received and entered.

Drawings

1. Figures 20-21 stand object ed as stated in the previous office action.
2. The drawings stand objected to under 37 CFR 1.83(a) as stated in the previous office action. It should be noted that, according to figures 6A-6B, only a pixel electrode (604/614), dielectric films (611) are formed on a common electrode (602/612). In other words, there is no pictorial illustration a reflection layer formed on the common electrode as claimed. *me*

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The specification is objected as stated in the previous office action.

According to claim 10, a reflection film is formed on a common electrode; however, such limitation is not supported in the specification as stated above.

Correction is required.

Art Unit: 2871

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 10-11 are rejected under 35 U.S.C. 112, first paragraph, as stated in the previous office action.

Regarding claim 10, there is no teaching in the specification and drawings how a reflection film can be formed on a common electrode as stated above. Therefore, claim 10 contains subject matter which was not described in the specification.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 17-19, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al., US Patent No. 6,108,056, in view Masaya et al., JP 07-230101.

Regarding the above claims, Nakajima et al. disclose an active-matrix LCD (figure 8) having a second reflective layer (116), a pixel electrode (118) and a first reflective layer (i.e., a dielectric film (117)) therebetween.

However, Nakajima et al. do not disclose the dielectric film comprising a multi-layer film. Masaya et al. do disclose a dielectric film can be a multi-layer film (e.g., multilayer

Art Unit: 2871

reflecting mirror, 409) as shown in figure 11. Therefore, it would have been obvious to one skilled in the art at the time of the invention made to modify the Nakajima et al. device having a multi-layer dielectric film as shown by Masaya et al., since it is a common practice in the art to obtain a bright clear display image (see detailed description, paragraph [005]).

8. Claims 1-9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Masaya et al., JP 07-230101, in view of Iwaki et al., US Patent No. 5,168,383, as stated in the final office action.

Applicants, again, contends that Masaya et al. and Iwaki et al. do not teach, disclose, or suggest the thickness of the pixel electrode that is satisfied with $\lambda/4$ (amendment page 7). The Examiner, again, respectfully disagrees with the applicant's viewpoint since, as stated in the final office action. It should also be noted that the Applicants' pixel electrode and the Iwaki et al. pixel electrode both have the same material (e.g., transparent conductive material). In addition, the Iwaki et al. electrode thickness range (i.e, 200 to 2000Å) includes the claimed range (i.e, 50.5nm to 88.4nm). Therefore, the thickness of the Iwaki et al. electrode would be at least obvious to the equation $nd = \lambda/4$.

Accordingly, the rejection of claims 1-9 stand.

9. Claim 14-16, 21, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al., US Patent No. 6,108,056, in view Masaya et al., JP 07-230101, further in view of Sato et al., US Patent No. 5,461,501.

-9

$$\begin{array}{r} 20 \text{ nm} - 200 \text{ nm} \\ 50.5 - 88.4 \end{array}$$

Art Unit: 2871

Regarding claims 24, the modification to Nakajima et al. do disclose a multi-layer dielectric film as stated above. Therefore, it would have been obvious to combine the teachings of the applied references to arrive at the claimed invention.

Response to Arguments

10. Applicant's arguments filed 03/14/2002 have been fully considered but they are not persuasive as stated above.

11. Applicant's arguments with respect to claim 17 have been considered but are moot in view of the new ground of rejection.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however,

Art Unit: 2871

will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Dung Nguyen whose telephone number is (703) 305-0423.

DN
06/03/2002


William L. Sikes
Supervisory Patent Examiner
Group 2871